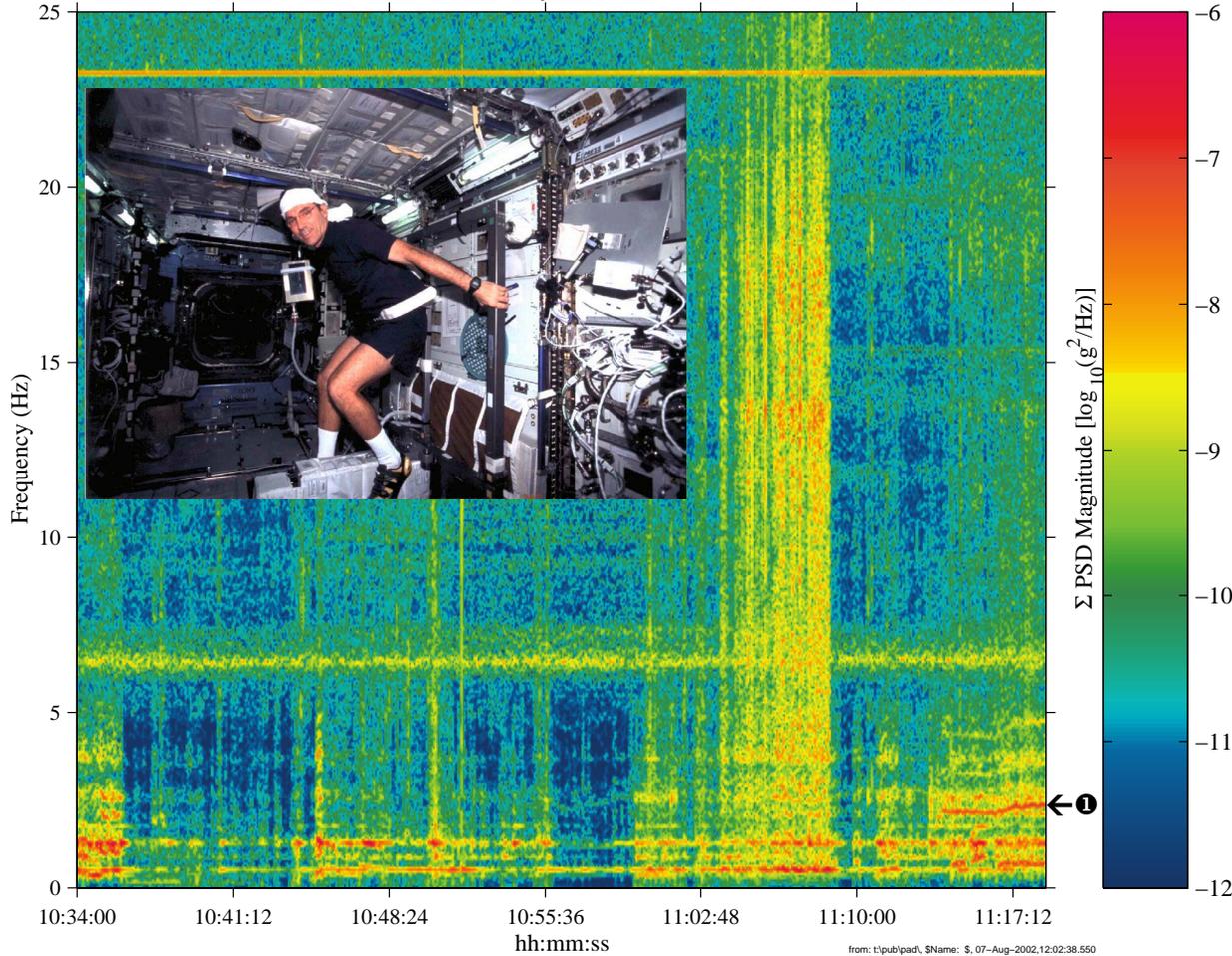


# Cycle Ergometer with Vibration Isolation System (CEVIS) QUALIFY

sams2, 121f05 at LAB1O1, ER2, Upper Z Panel:[185.17 38.55 149.93]  
62.5 sa/sec (25.00 Hz)  
 $\Delta f = 0.061$  Hz, Nfft = 1024  
Temp. Res. = 4.096 sec, No = 768

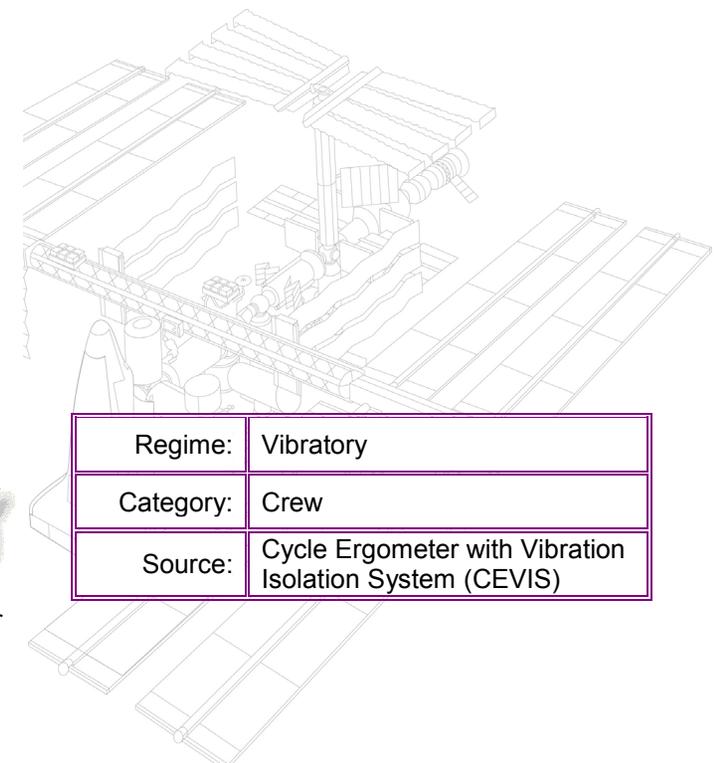
Increment: 4, Flight: UF1  
Sum  
Hanning, k = 656  
Span = 44.71 minutes

CEVIS Exercise Period  
Start GMT 01-January-2002, 001/10:34:00.009



| Data Description |                                  |
|------------------|----------------------------------|
| Sensor           | 121f05<br>62.5 sa/sec (25.00 Hz) |
| Location         | LAB1O1, ER2, Light Tray          |
| Inc/Flight       | Increment: 4, Flight: UF1        |
| Plot Type        | spectrogram                      |

**Notes:**  
The CEVIS exercise device is located in the US Lab at LAB1P3. The narrowband peak at about 2.5 Hz marked on the lower right of the spectrogram is the pedaling frequency for this CEVIS exercise period. For Shuttle ergometer exercise, the pedaling signature was accompanied by that of shoulder sway with frequency around half the pedal rate. On the ISS for this CEVIS exercise period, the shoulder sway signature is obscured by structural modes that fall in the same frequency range.



|           |   |
|-----------|---|
| Regime:   | Vibratory   |
| Category: | Crew  |
| Source:   | Cycle Ergometer with Vibration Isolation System (CEVIS) |



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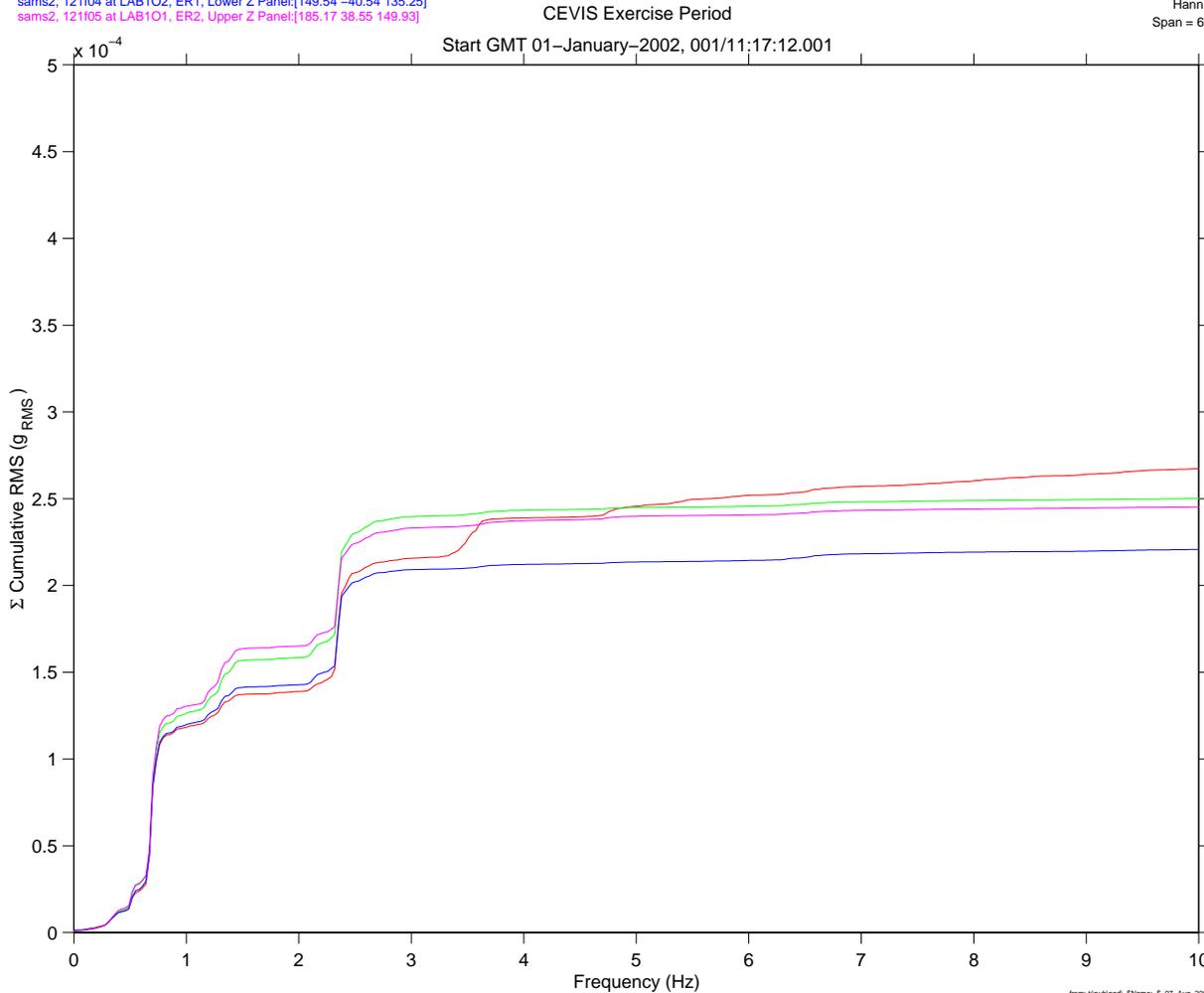


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# Cycle Ergometer with Vibration Isolation System (CEVIS) QUANTIFY

sams2, 121f02 at LAB1O2, ER1, Drawer 1:[128.73 -23.53 144.15]  
sams2, 121f03 at LAB1O1, ER2, Lower Z Panel:[191.54 -40.54 135.25]  
sams2, 121f04 at LAB1O2, ER1, Lower Z Panel:[149.54 -40.54 135.25]  
sams2, 121f05 at LAB1O1, ER2, Upper Z Panel:[185.17 38.55 149.93]

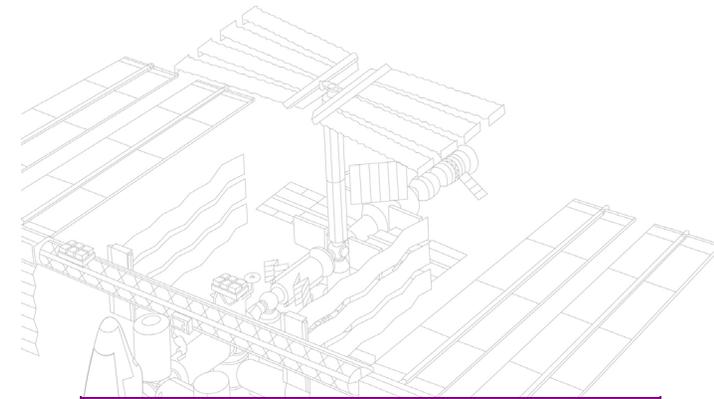
Increment: 4, Flight: UF1  
Sum  
Hanning, k = 2  
Span = 60.00 sec.



| Data Description |                           |
|------------------|---------------------------|
| Sensor           | see upper left of figure  |
| Location         | see upper left of figure  |
| Inc/Flight       | Increment: 4, Flight: UF1 |
| Plot Type        | cumulative RMS            |

### Notes:

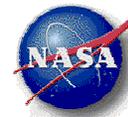
To quantify the impact of a CEVIS exercise period from four sensor locations, the cumulative RMS acceleration versus frequency curves shown in the figure were computed. The legend at the upper left shows which trace was computed for each of the different sensors. The curves in this figure all step up about 70  $\mu\text{g}_{\text{RMS}}$  at the pedaling frequency, but vary to some degree across the rest of the acceleration spectrum below 10 Hz. The variability is expected as the SAMS sensors used for the analysis were distributed throughout ER1 and ER2 as indicated by the legend.



|           |   |
|-----------|---|
| Regime:   | Vibratory   |
| Category: | Crew  |
| Source:   | Cycle Ergometer with Vibration Isolation System (CEVIS) |



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